

March 09, 2017

Dave Blye Environmental Standards, Inc. 1140 Valley Forge Road PO Box 810 Valley Forge, PA 19482

RE: Project: Hudson River Remedial Action M

Pace Project No.: 10380570

### Dear Dave Blye:

Enclosed are the analytical results for sample(s) received by the laboratory on March 02, 2017. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Carol Davy

Oard Day

carol.davy@pacelabs.com 1(612)607-6436

**Project Manager** 

Enclosures

cc: Mark LaRue, Anchor QEA

Meg Michell, Environmental Standards, Inc. Christopher Yates, Anchor QEA, LLC



### **REPORT OF LABORATORY ANALYSIS**





### **CERTIFICATIONS**

Project: Hudson River Remedial Action M

Pace Project No.: 10380570

### **Minnesota Certification IDs**

1700 Elm Street SE Suite 200, Minneapolis, MN 55414

Alaska Certification UST-107
525 N 8th Street, Salina, KS 67401
A2LA Certification #: 2926.01
Alaska Certification #: UST-078
Alaska Certification #MN00064
Alabama Certification #40770
Arizona Certification #: AZ-0014
Arkansas Certification #: 88-0680

Arkansas Certification #: 88-0680
California Certification #: 01155CA
Colorado Certification #Pace

Connecticut Certification #: PH-0256 EPA Region 8 Certification #: 8TMS-L Florida/NELAP Certification #: E87605

Guam Certification #:14-008r Georgia Certification #: 959 Georgia EPD #: Pace

Idaho Certification #: MN00064 Hawaii Certification #MN00064 Illinois Certification #: 200011 Indiana Certification#C-MN-01 Iowa Certification #: 368 Kansas Certification #: E-10167

Kentucky Dept of Envi. Protection - DW #90062 Kentucky Dept of Envi. Protection - WW #:90062

Louisiana DEQ Certification #: 3086 Louisiana DHH #: LA140001 Maine Certification #: 2013011 Maryland Certification #: 322 Michigan DEPH Certification #: 9909
Minnesota Certification #: 027-053-137
Mississippi Certification #: Pace
Montana Certification #: MT0092
Nevada Certification #: MN\_00064
Nebraska Certification #: Pace
New Jersey Certification #: MN-002
New York Certification #: 11647
North Carolina Certification #: 530

North Carolina State Public Health #: 27700

North Dakota Certification #: R-036

Ohio EPA #: 4150

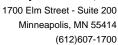
Ohio VAP Certification #: CL101 Oklahoma Certification #: 9507 Oregon Certification #: MN200001 Oregon Certification #: MN300001 Pennsylvania Certification #: 68-00563

Puerto Rico Certification
Saipan (CNMI) #:MP0003
South Carolina #:74003001
Texas Certification #: T104704192
Tennessee Certification #: 02818
Utah Certification #: MN000642013-4
Virginia DGS Certification #: 251
Virginia/VELAP Certification #: Pace
Washington Certification #: C486
West Virginia Certification #: 382
West Virginia DHHR #:9952C
Wisconsin Certification #: 999407970

### REPORT OF LABORATORY ANALYSIS

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### **SAMPLE SUMMARY**

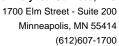
Project: Hudson River Remedial Action M

Pace Project No.: 10380570

Lab ID	Sample ID	Matrix	Date Collected	Date Received
10380570001	OWS-BDUP-T170228161518 DUP	Water	02/23/17 00:00	03/02/17 09:45
10380570002	OWS-WAFO-T170228161359 ENV	Water	02/23/17 11:15	03/02/17 09:45

### **REPORT OF LABORATORY ANALYSIS**

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### **SAMPLE ANALYTE COUNT**

Project: Hudson River Remedial Action M

Pace Project No.: 10380570

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory	
10380570001	OWS-BDUP-T170228161518 DUP	SM 2540D	JFP	1	PASI-M	
10380570002	OWS-WAFO-T170228161359 ENV	SM 2540D	JFP	1	PASI-M	

### **REPORT OF LABORATORY ANALYSIS**



Minneapolis, MN 55414 (612)607-1700

### **PROJECT NARRATIVE**

Hudson River Remedial Action M Project:

Pace Project No.: 10380570

Method: SM 2540D

Description: 2540D TSS, Low Level Client: Anchor QEA, LLC Date: March 09, 2017

### **General Information:**

2 samples were analyzed for SM 2540D. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

### **Hold Time:**

The samples were analyzed within the method required hold times with any exceptions noted below.

### Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

### **Laboratory Control Spike:**

All laboratory control spike compounds were within QC limits with any exceptions noted below.

### Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

### **Additional Comments:**

This data package has been reviewed for quality and completeness and is approved for release.

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1700 Elm Street - Suite 200 Minneapolis, MN 55414 (612)607-1700

### **ANALYTICAL RESULTS**

Project: Hudson River Remedial Action M

Pace Project No.: 10380570

10380570

Sample: OWS-BDUP- Lab ID: 10380570001 Collected: 02/23/17 00:00 Received: 03/02/17 09:45 Matrix: Water

T170228161518 DUP

Results Units **PQL** MDL DF CAS No. Qual **Parameters** Prepared Analyzed 2540D TSS, Low Level Analytical Method: SM 2540D Total Suspended Solids 20.0 mg/L 1.0 0.50 03/02/17 18:21

1700 Elm Street - Suite 200 Minneapolis, MN 55414 (612)607-1700



### **ANALYTICAL RESULTS**

Project: Hudson River Remedial Action M

Pace Project No.: 10380570

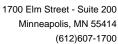
Sample: OWS-WAFO- Lab ID: 10380570002 Collected: 02/23/17 11:15 Received: 03/02/17 09:45 Matrix: Water

T170228161359 ENV

Results Units **PQL** MDL DF CAS No. Qual **Parameters** Prepared Analyzed 2540D TSS, Low Level Analytical Method: SM 2540D Total Suspended Solids 20.4 mg/L 1.0 0.50 03/02/17 18:21

### **REPORT OF LABORATORY ANALYSIS**

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### **QUALITY CONTROL DATA**

Project: Hudson River Remedial Action M

Pace Project No.: 10380570

Date: 03/09/2017 05:18 PM

QC Batch: 462317 Analysis Method: SM 2540D

QC Batch Method: SM 2540D Analysis Description: 2540D TSS, Low Level

Associated Lab Samples: 10380570001, 10380570002

METHOD BLANK: 2528096 Matrix: Water

Associated Lab Samples: 10380570001, 10380570002

Blank Reporting
Parameter Units Result Limit MDL Analyzed Qualifiers

Total Suspended Solids mg/L <1.0 1.0 0.50 03/02/17 18:21

LABORATORY CONTROL SAMPLE & LCSD: 2528097 2528098 Spike LCS LCSD LCS LCSD % Rec Max Result Parameter Units Conc. Result % Rec % Rec Limits **RPD RPD** Qualifiers **Total Suspended Solids** mg/L 100 104 100 104 100 80-120

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

### **REPORT OF LABORATORY ANALYSIS**

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### **QUALIFIERS**

Project: Hudson River Remedial Action M

Pace Project No.: 10380570

### **DEFINITIONS**

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

**DUP - Sample Duplicate** 

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

### **LABORATORIES**

Date: 03/09/2017 05:18 PM

PASI-M Pace Analytical Services - Minneapolis

### REPORT OF LABORATORY ANALYSIS

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(612)607-1700



### **QUALITY CONTROL DATA CROSS REFERENCE TABLE**

Project: Hudson River Remedial Action M

Pace Project No.: 10380570

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
10380570001	OWS-BDUP-T170228161518 DUP	SM 2540D	462317		
10380570002	OWS-WAFO-T170228161359 ENV	SM 2540D	462317		

### **REPORT OF LABORATORY ANALYSIS**

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10380570

Date: 03/09/2017 05:18 PM

A ANCHOR

Client: General Electric Company

**ENVIRONMENTAL SAMPLE CHAIN OF CUSTODY** 

Project: Hudson River Remedial Action Monitoring Program - Resuspension Monitoring

PACE CÇ COC ID: COC170228162105PACE

0780870

Sample Custodian: Lab:

reservative 4degC 4degC 504 N 504 Turn Around Time (hrs) z 2 MSD z Z MS z z METHOD SM 2540D NE294\_02 TEST REQUESTED **Total Suspended Solids** CS PCBs # Containers 02/23/2017 11:15 W Media<sup>\*</sup> Time Collected Date Collected 02/23/2017 \$ Matrix \* QA/QC OWS-WAFO-T170228161359 ENV OWS-BDUP-T170228161518 Field Sample ID

COC Sample Number

002

4degC

N 504 504

Z

Z

SM 2540D NE294\_02

Total Suspended Solids

CS PCBs

4degC

z

z

SIG 1923709 CYATES CAP.OM

	CCB Sample Archived at PACE Schenechady	ived at PACE	Schenechady		
	Received by:	Relinquished by:	Received by:/	Relinguished by:	Receiv
Į.		Signature	Signature Manufacture Concession	Sgnature	Signature
1	Print Name COCK	Print Name	Principle of Marchael	Print Name	Print Name
ı	Company	Сомралу	Company ( Jan Col)	Ompany	Company
1 :	Date/Time	Date/Time	Date Time 3/7/17 945	Date/Time	Date/Time
េះ			The second secon		Month of the second

\* S= SEDIMENT, W= WATER, PW= PORE WATER Date Printed: 2/28/2017

\*\* W = Total/Whole, D = Dissolved, R = Residue, S = Sediment

Page 1 of 1



### Document Name: Sample Condition Upon Receipt Form

Document No.: F-MN-L-213-rev.20 Document Revised: 19Dec2016 Page 1 of 2

Issuing Authority:
Pace Minnesota Quality Office

Sample Condition Client Name:		Project	# WO#:10380570
Courier: NGPed Ex DUPS	Tuene		
	USPS Other:	Client	
Tracking Number: 7867 5698 28			10380570
1001 201	~ ,	_	
Custody Seal on Cooler/Box Present? Yes No	Seals	s Intact?	Yes No Optional: Proj. Due Date: Proj. Name:
Packing Material: Bubble Wrap Bubble Bags	None	ther:	Temp Blank? ► No
Thermometer 151401163 Used: □ 151401164	Type of I	ce: \Qwet	Blue None Samples on ice, cooling process has begun
Cooler Temp Read (°C): ( ). ( ) Cooler Temp Corn	ected (°C): <u>(</u>	<u>9.  </u>	Biological Tissue Frozen? Yes No N/A
Temp should be above freezing to 6°C Correction Facto	r: <u>+0,</u>	( Date	e and Initials of Person Examining Contents: RG 3/2//
USDA Regulated Soil ( \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	atec: AL AR C	A EL GA ID I.	A MOST Did gameles suisients forms a familiar value of
NC, NM, NY, OK, OR, SC, TN, TX or VA (check maps)?	ales. AL, AN, CA		A. M8, Did samples originate from a foreign source (internationally, No including Hawaii and Puerto Rico)?
If Yes to either question, fill out a Regu	lated Soil Che	cklist (F-MN-	Q-338) and include with SCUR/COC paperwork.
			COMMENTS:
Chain of Custody Present?	Ves □	No	1.
Chain of Custody Filled Out?	<b>™</b> es □	]No	2.
Chain of Custody Relinquished?	<b>V</b> Yes □	No	/3
Sampler Name and/or Signature on COC?	□Yes ⊿ □	No NA	4.
Samples Arrived within Hold Time?		No	5.
Short Hold Time Analysis (<72 hr)?		No /	6.
Rush Turn Around Time Requested?		No	7.
Sufficient Volume?	-		
		No	amoved in Physic container = not
13.00		<b>1</b> 500	appropriate for PCBs.
	<del></del>	No	
Containers Intact?		No	10,
Filtered Volume Received for Dissolved Tests?	Yes	NG DIN/A	11. Note if sediment is visible in the dissolved container
Sample Labels Match COC?	□Yes 🔽	No	12. Sample OWS-BUMP-T17022816151
-Includes Date/Time/ID/Analysis Matrix:			No late or time on label Wo fine a
All containers needing acid/base preservation have been checked?			13. HNO <sub>3</sub> H <sub>2</sub> SO <sub>4</sub> NaOH Positive for Res.
All containers needing preservation are found to be in	∐Yes	No <b>∏</b> √N/A	Chlorine? Y N Sample #
compliance with EPA recommendation?			
(HNO₃, H₂SO₄, <2pH, NaOH >9 Sulfide, NaOH>12 Cyanide) Exceptions: VOA, Coliform, TOC/DOC Oil and Grease.	Yes	No <b>∏</b> N/A	Initial colors
DRO/8015 (water) and Dioxin.	□Yes □	No DAYA	Initial when Lot # of added completed: preservative:
Headspace in VOA Vials ( >6mm)?		No DMA	14.
Trip Blank Present?		No MNA	15.
Trip Blank Custody Seals Present?	Yes □	. /	
Pace Trip Blank Lot # (if purchased):			
CLIENT NOTIFICATION/RESOLUTION			Field Data Required? Yes No
Person Contacted:			Date/Time:
Comments/Resolution: PCB samples are	archived	at Schen	
collection recorded.			
		<del>-</del>	
Project Manager Review:	al X	2.//	Date: 3/2/17
	pliance sample	s, a py of this	form will be sent to the North Carolina DEHNR Certification Office ( i.e out of

hold, incorrect preservative, out of temp, incorrect containers).



# Analytical Data Package

Prepared by:

**Pace Analytical Services** 

Pace Project No.: 10380570

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# FORM I INORGANIC-1 INORGANIC ANALYSIS DATA SHEET

OWS-BDUP-T170228161518 DUP

Lab Name: Pace Analytical - Minnesota SDG No. : 10380570 Contract: Hudson River Remedial Action
Lab Sample ID: 10380570001 Percent Moisture:

CAS No.	Analyte	Concentration	Q	Units	DF	Analysis Date/Time
	Total Suspended Solids	20.0		mg/L	1	03/02/2017 18:21

FORM I INORGANIC-1
INORGANIC ANALYSIS DATA SHEET

SAMPLE NO.

OWS-WAFO-T170228161359 ENV

ab Name: Pace Analytical - Minne	esota	SDG No. : 10380570	Contract:	Hudson River Remedial Action
ab Sample ID: <u>10380570002</u>			Percent M	oisture:

CAS No.	Analyte	Concentration	Q	Units	DF	Analysis Date/Time
	Total Suspended Solids	20.4		mg/L	1	03/02/2017 18:21

### FORM III INORGANIC-1 BLANKS

Lab Name: Pace Analytical - Minnesota	SDG No. : 10380570 Contract : Hudson River Remedial Action M
Method Blank Matrix: Water	Instrument ID: 10WET4
Method Blank Concentration Units: mg/L	

Analyte	Initial Calibration Blank		Continuing Calibration Blank					Method Blank		
		С		С		С		С	2528096	С
Total Suspended Solids									<1.0	U

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### FORM VI INORGANIC-1 DUPLICATES

2528	0981	CSD	

Lab Name: Pace Analytical - Minnesota SDG No. : 10380570 Contract: Hudson River Remedial Action

Matrix: Water Concentration Units: mg/L

Percent Moisture: Basis: Wet

Analyte	Control Limit	Sample	Duplicate	RPD
Total Suspended Solids	10	104	100	4

### FORM VII INORGANIC-1 LABORATORY CONTROL SAMPLE

2528097LCS	

Lab Name: Pace Analytical - Minnesota SDG No. : 10380570 Contract: Hudson River Remedial Action

Matrix: Water

Analyte	Units	True	Found	%R	Lin	nits
Total Suspended Solids	mg/L	100	104	104	80	120

### FORM VII INORGANIC-2 LABORATORY CONTROL SAMPLE

5280981	CSD

Lab Name: Pace Analytical - Minnesota SDG No. : 10380570 Contract: Hudson River Remedial Action

Matrix: Water

Analyte	Units	True	Found	%R	Lin	nits
Total Suspended Solids	mg/L	100	100	100	80	120

# FORM IX INORGANIC-1 METHOD DETECTION LIMITS

Lab Name: Pace Analytical - Minnesota SDG No.: 10380570 Contract: Hudson River Remedial Action M

Preparation Method: SM 2540D Instrument ID: 10WET4

Concentration Units: mg/L

Analyte	PQL	MDL	MDL Date
Total Suspended Solids	2.0	1.0	04/01/2015

### FORM XII INORGANIC-1 PREPARATION LOG

Lab Name: Pace Analytical - Minnesota SDG No. : 10380570 Contract: Hudson River Remedial Action M

Preparation Method: SM 2540D Batch: WET 52401

Lab Sample ID	Sample Name	Preparation Date	Initial Volume (mL)	Final Volume (mL)
2528096	2528096	03/02/2017	1000	500
2528097	2528097	03/02/2017	1000	500
2528098	2528098	03/02/2017	1000	500
10380570001	OWS-BDUP-	03/02/2017	1000	500
10380570002	OWS-WAFO-	03/02/2017	1000	500

### FORM XIII INORGANIC-1 ANALYSIS RUN LOG

Lab Name: Pace Analytical - Minnesota SDG No. : 10380570 Contract: Hudson River Remedial Action M

Instrument ID: 10WET4 Analysis Method: SM 2540D

Start Date: 03/02/2017 18:21 End Date: 03/02/2017 18:21

Sample Name	Lab Sample ID	D/F	Date	Time	tss w
2528096BLANK	2528096	1	03/02/2017	18:21	Х
2528097LCS	2528097	1	03/02/2017	18:21	Х
2528098LCSD	2528098	1	03/02/2017	18:21	Χ
OWS-BDUP-T170228161518	10380570001	1	03/02/2017	18:21	Χ
OWS-WAFO-	10380570002	1	03/02/2017	18:21	Х

# Pace Analytical Prep Log Report

Batch Information: WET 52401 TSS LL

Datcii miormatioi	Datcii IIIIOIIIIatioii. WEI 32401 133 LL			lemplate version	elliplate velsion. r-imiv-i-320-nev.us (243ali2017)	(24)4112017)
Analysis Method	SM 2540D	Analyzed By	JFP	Instrument	10WET4	Acceptance Range:
<u>a</u> 3805	10WET77	Thermometer ID	2113652	Oven Temp Correction <sub>-1</sub>	7	Oven Temp In1   Corr   Date/Time   Init
Oven Temp Out1   Corr   Date/Time   Init	Oven Temp Out1   103.0   102.0   03/03/2017 09:03   NAS	Desic. In 1 ID   Date/Time   Init	8   03/03/2017 09:03   NAS	Desic. Out 1 Date/Time   Init	03/03/2017 10:59   NAS	Oven Temp In2   Corr   Date/Time   Init
Oven Temp Out2   Corr   Date/Time   Init	Oven Temp Out2   105.0   104.0   03/03/2017 12:06   NAS	Desic. In 2 ID   Date/Time   Init	8   03/03/2017 12:06   NAS	Desic. Out 2 Date/Time   Init	03/03/2017 13:21   NAS	Reviewed By
Reviewed By Date	03/03/2017 17:32	Batch Notes				
Sample Information:	:uc					

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106.0 | 105.0 | 03/02/2017 18:21 | JFP

103-105 C

105.0 | 104.0 | 03/03/2017 11:03 | NAS

KEO

(9) Z 1W nəvO	0.1144	0.2195	0.2154	0.1358	0.1348
l əsU nəvO	N	Z	N	N	Z
Oven Wt 1 (g)	0.1144	0.2200	0.2155	0.1358	0.1348
Filter Use 1	М	М	М	М	M
Filter Wt 1 (g)	0.1144	0.1155	0.1153	0.1158	0.1144
TSS Filters ()	111397 ()	111397 ()	111397 ()	111397 ()	111397 ()
Initial Volume (mL)	1000	1000	1000	1000	1000
Run Date/Time	03/02/2017 18:21	03/02/2017 18:21	03/02/2017 18:21	03/02/2017 18:21	03/02/2017 18:21
TSS Posted (mg/L)	00000	208.00	200.20	40.000	40.800
(J\gm) Isni3 SST	00000	104.00	100.10	20.000	20.400
aı	$_{ m CHA9P}$	$_{ m 4L6H^{2}}$	O6HH2	cHA9R	cHA9S
Select	Y	Y	Y	Y	Y
Dal Sample ID	2528096	2528097	2528098	10380570001	10380570002
Sample Type	BLANK	rcs	TCSD	PS	PS
ac Rule	2540D WLL BLANK <b>2528096</b>	2540D WLL	0 2540D WLL	2540D WLL PS	2540D WLL PS
	10	of :	10		

		(20)	(20)			
TS/TDS-SPK		112198 (50	112198 (50			
Sample Notes						
Oven Wt Diff 1&2	0.0000	0.0005	0.0001	0.0000	0.0000	
Oven %Diff 1&2	NaN	0.47962	0.099850	000000	000000	
Oven Use 2	Y	Y	Y	Y	Y	
Lab Sample ID	2528096	2528097	2528098	10380570001	10380570002	
Sample Type	BLANK	rcs	TCSD	PS	PS	
gC Rule	2540D WLL	2540D WLL	2540D WLL	2540D WLL	2540D WLL	

Standard Notes: N 12198: TS/TSS/TDS Handmade Standard, Used